Infrastructure and Utilities

The following is a summary of the status of infrastructure in the Town of Enfield for drinking water, sanitary and storm sewer, natural gas, and electricity and solid waste. Not all infrastructure is owned by the Town, but all Town-owned infrastructure is managed by the Department of Public Works. The Town of Enfield Department of Public Works has several divisions: Building & Grounds Maintenance, Highway Maintenance, Engineering, Solid Waste, Fleet Services, and the Water Pollution Control.

Water

Domestic water is supplied by two privately-owned public utilities: the Connecticut Water Company and the Hazardville Water Company. These private water utilities are regulated by the United States Environmental Protection Agency (EPA) and the Connecticut Department of Public Health (DPH) with regard to water quality and operations, the Department of Environmental Protection (DEP) for environmental compliance, and by the Department of Public Utility Control (DPUC) with regard to rates and service.

The Connecticut Water Company supplies water to more than 86,000 customers, or nearly 300,000 people, for residential, commercial, industrial and municipal purposes in 54 towns in Connecticut.[88] The Hazardville Water Company serves 7,200 customers living along 117 miles of main requiring 12 wells capable of pumping 4.2 million gallons per day.[89]

As required by the EPA, both companies publish an annual Water Quality Report that is available online. These reports described the results of periodic water quality tests and the sources of water, which for both utilities is a series of wells that draw groundwater. Based upon EPA primary water quality standards, water from both utilities has been deemed safe for consumption.

The private water utilities are not operated or regulated by the Town of Enfield. However, there are Advisory Committees for each utility that include a representative(s) from the Town of Enfield. The purpose of the committees is to provide the residents with advocates to air complaints about service, water quality and fees. According to the Enfield Town Engineer, in recent years, there have been few complaints from residents about the water quality, rates or supply provided by the utilities.

Private Wells

Not all areas of the town have utility water available to them – instead these properties have their own private wells that draw groundwater from the aquifer. Typically, these private wells are much shallower than the utility wells, thus are more susceptible to groundwater contamination. This makes it all the more important for the Town to preserve and monitor the aquifer protection areas and the groundwater recharge areas. During the writing of this report, a consultant was hired by the Town to study soil contamination in

[88] Connecticut Water Company website http://www.ctwater.com

[89] Hazardville Water Company website http://www.hazardvillewater.com

the Broadbrook Road area that has caused problems with local wells. A solution to this problem may be to extend water lines and take the private wells offline in this area.

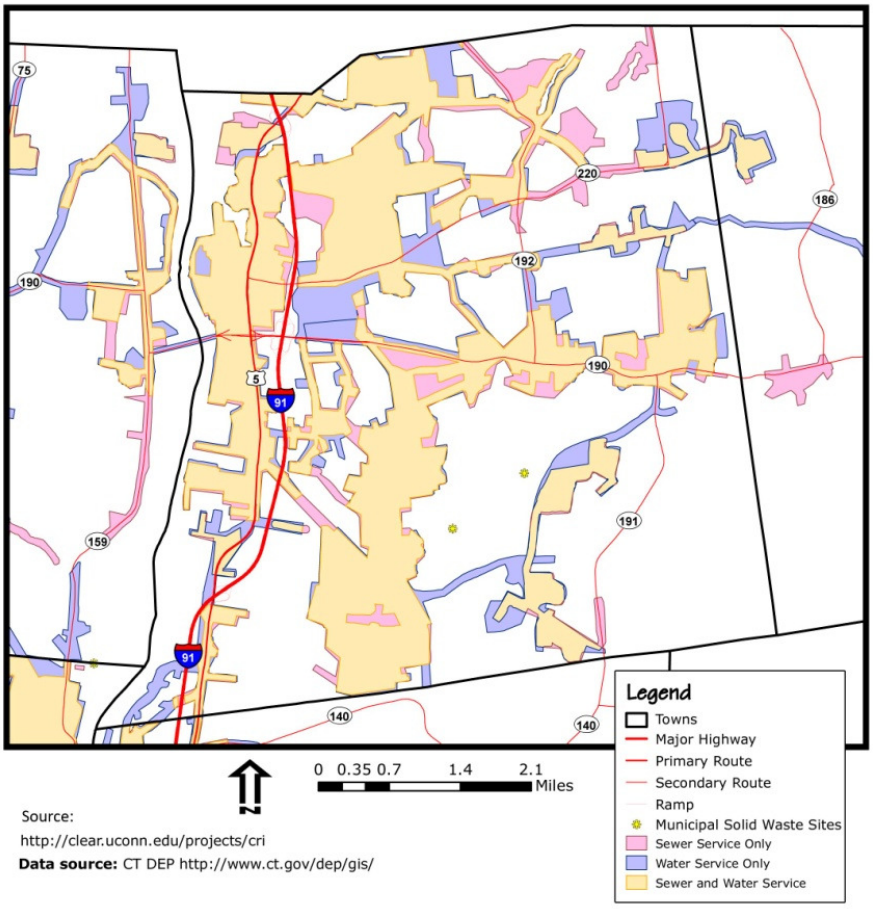

Figure 35 Areas Serviced by Water and Sewer

Sanitary Sewer System

The Enfield Department of Public Works' Water Pollution Control Division owns and operates a Wastewater Treatment Plant (WWTP) at 90 Parsons Road. Besides the plant, the Division is responsible for the operation, maintenance and repair of sixteen pumping stations, and two hundred and fifty miles of sewer pipe. The 47 year old WWTP (1972) is currently permitted to discharge ten million gallon per day (mgd). It is designed to remove 85% of the Biological Oxygen Demand and Suspended Solids, and was recently upgraded to provide nitrification/denitrification of the water. Initially, this process reduced the WWTP's design capacity of 10 mgd, but the capacity was restored with the addition of a proprietary process known as feed forward control. This process has exceeded designed specification and produces effluent surpassing the permit level, which resulted in revenue from the nitrification credit trading program. Professionals from as far away as China and Great Britain have come to view the process.

The normal flow at the WWTP is around five mgd with an occasional spike after a high intensity rainstorm of twelve to fifteen mgd. The WWTP is designed to handle a brief surge of twenty mgd and provide partial treatment before discharging the water. Based on the reported surges of wastewater after a rainstorm, one

can conclude that there is stormwater entering the sanitary sewer system. Usually problems of this type come from older developments that were built before regulations were in place that restrict the tie-in of sump pumps and roof leaders to sanitary sewer systems. The Town is aware of this problem and has taken steps to address it. According to the Superintendent of the WWTP, Enfield applied for and received a Federal grant totaling $286,000 to address stormwater inflow issues in the Thompsonville area. While this won't entirely solve the problem, this will definitely help. Waste entering the WWTP and sludge generated by the water treatment process is processed to reduce water content, and then trucked to the Metropolitan District Commission in Hartford for disposal.

At the request of Town Manager Mathew Coppler, the WPC Division looked at various cogeneration options. After an initial study, the WPC Division concluded that it could process the sludge in a digester and create methane that could be converted to electricity. The study predicted that the Town could generate $700,000 a year of internal savings from the electricity saved and an energy trading program. With this study and the help of the EPA Region I, the Town secured stimulus funding for the project: 20% from a grant and the remainder from a 2% loan. The cost of the project is $8,600,000. The Town has contracted with SEA Consultants to create a 30% design, which will allow the project to go out to bid.

Septic Systems

One study estimates that in the Town of Enfield, "95% of residential and industrial areas are sewered."[90] The remaining properties in outlying areas use onsite sewage treatment systems such as septic tanks with drain fields (septic systems). These structures are regulated by the State of Connecticut Department of Public Health that has a new (January 2009) set of regulations titled Regulations and Technical Standards for Subsurface Sewage Disposal Systems available online at http://www.cteha.org/pdf/TechStd'09Master.pdf. Locally, these regulations are enforced by the North Central District Health Department. While these regulations update the requirements for design and installation of septic systems, which goes a long way toward insuring the proper functioning of the system, they do not require post-construction maintenance, monitoring or inspections. Instead, it is up to individual property owners to conduct inspections, pump septic tanks and take other steps to ensure that systems are operating properly and that no untreated wastewater is leaving the site. Poorly maintained septic systems can have a direct impact on the integrity of both groundwater and surface water sources. Systems can overflow and contribute pollutants to nearby streams and groundwater. Therefore, proper septic system function and maintenance or the elimination of onsite systems is of long term importance for the Town of Enfield. There should be no problem with WWTP capacity when taking septic systems offline since the high concentration septage (material pumped from septic tanks) is currently hauled to the WWTP for processing.

Implications for Housing Density

Another aspect of onsite sewage treatment systems that is regulated by the State is the distance to wells, open watercourses, groundwater drains, etc. A private well that draws less than ten gallons per minute (gpm) must not be closer than seventy five feet to any part of an onsite sewage treatment system. If the well draws more than 10 gpm, the setback increases to 100 feet. This regulation effectively sets a minimum lot size/maximum housing density in areas that do not have municipal sewer and water. Therefore, if increased density is desired, municipal water and sewer services must be provided or a developer must provide one.

[90] Town of Enfield Connecticut – Plan of Conservation & Development - 1999

Storm Water System

Enfield owns and maintains a system of stormwater pipes, catch basins and manholes. Ongoing maintenance and upgrades to old and undersized pipes are being done with Capital Improvements Program (CIP) funding. Some of this work is done with Town staff and larger projects are contracted out. There are no combined sewer overflow (CSO) connections (where overflow from the sanitary sewer is spilled into the storm sewer) in the municipal system. The entire system flows by gravity – there are no pump stations.

Much of the stormwater pollution regulations in the Town of Enfield have been applied by the Federal Environmental Protection Agency (EPA). The Connecticut Department of Environmental Protection (CTDEP) serves as the umbrella agency for administering the state's National Pollution Discharge Elimination System (NPDES) stormwater management program. Connecticut's stormwater program is closely modeled after the federal NPDES program, which requires stormwater be treated to the maximum extent practicable. Best management practices (BMP') must also be designed to remove 80% of the total suspended solids load. The CTDEP publishes the Connecticut Stormwater Quality and the Connecticut Guidelines for Soil Erosion and Sediment Control; both are available online at http://www.ct.gov/dep/.

At the state level, all construction sites disturbing more than one acre, many industrial sites, and all designated Municipal Separate Storm Sewer Systems (MS4s) are required to obtain and meet the requirements of NPDES permit coverage. Enfield is defined as a MS4 community since it has an Urbanized Areas as determined by the U.S. Census Bureau and has an MS4 permit in place with CTDEP. Specifically, MS4 regulations apply to how towns manage their system and what measures they take to reduce or eliminate the discharge of pollutants to that system. In Enfield, a developer or contractor must also get a permit directly from CTDEP for the discharge of stormwater – the Town does not issue this permit. Also, the Town does not have any stormwater regulations that supplement the CTDEP regulations.

Natural Gas and Electric

Gas and electric services in Enfield are run by private utilities – the Town does not own or operate infrastructure in this category. According the website city-data.com, 56% of the homes in Enfield are heated with fuel oil, kerosene, propone, etc., 35% use utility gas, 5% use electricity and 3% use "other".

The infrastructure for electricity is owned and maintained by Connecticut Light & Power (CL&P). Customers can choose from a wide range of electric providers since the market is de-regulated; however, CL&P will deliver that electricity to the customer. Yankee Gas provides the infrastructure for, and delivery of, natural gas service in Enfield. If the owner of a home of business in Enfield does not have gas service and would like it, they would approach the utility directly. On some occasions the Town may act on behalf of a group in approaching a utility but ultimately this is not the responsibility of the Town.

The Enfield Clean Energy Committee was originally established by the Town in October of 2007. The purpose of the committee is to promote clean power options; encourage the development of renewable energy in Enfield; and make recommendations to the Town Council. The committee has been meeting regularly since that time and has been discussing methods to promote clean energy and energy conservation.

Solid Waste

The Town of Enfield Solid Waste Division of the Department of Public Works provides curbside pickup of trash and recyclables once each week. Refuse/trash for residential customers must be placed in the new tipper barrels provided by the Town for that purpose. Bulky items must be picked up by appointment for a

fee. Refuse is initially trucked to the transfer station, located on Town Farm Rd. From there, the Refuse is transported to the Connecticut Resources Recovery Authority (CRRA) facility in Ellington. The CRRA is a quasi-public agency established by the state in 1973 to modernize Connecticut's solid waste disposal. CRRA replaced a patchwork of "town dumps" with a program that emphasizes trash-to-energy; recycling; and safe, modern, engineered lined landfills. In Enfield the tons of municipal solid waste collected from curbside and transported on a weekly basis to the CRRA Facility in 2006 was 17,866 tons.

State of Connecticut law prohibits the disposal of grass clippings with household refuse. Therefore, yard waste consisting of grass clippings and brush, is collected separately and may be placed at curbside in Brown Tipper Carts or Brown Leaf bags. Yard waste can also be dropped off at the Town's transfer station. Additional services provided to residents include a monthly scheduled automotive battery and used motor oil collection/drop off. The Town also provides an annual household hazardous waste drop-off opportunity in the spring.

Recycling

The Town provides curbside collection of commingled recyclables placed in blue bins provided by the Town, on a weekly basis. Recyclables include; mixed paper, glass, metal, plastic, and aseptic containers such as juice boxes and milk cartons. After staging at the Town's transfer station, recyclables are transported to the CRRA Recycling Facility in Hartford.

Findings

- While there are numerous problems with onsite sewage treatment systems (septic systems); they do allow development of sites that are remote and not economically feasible to extend sewer service to. Wherever feasible though, the Town should extend the sewer service to take existing septic systems offline eliminating concerns about water contamination due to septic systems with poor maintenance or unsuitable soil conditions and to allow higher housing densities where desired.
- With regard to stormwater inflow into the wastewater system, the Town should continue to take measures to correct the problem. This will help delay the date when expensive upgrades to the WWTP are needed due to either extra inflow volumes due to additional population or more stringent regulations.
- Hopefully, in the future the capital necessary to build the sewage sludge-fueled energy generation facility will be found. If implemented, the Town will likely realized some savings on energy costs and will become a leader in "green energy".

Transportation

A community's transportation network determines how easily people and goods are able to move into, out of and around its boundaries. The local transportation network also helps define the character of the town. The Town of Enfield transportation system inventory covers a variety of multimodal system elements including streets, sidewalks, multi-use and bicycle trails, air transportation, rail transportation, and public transit. By reviewing all available modes of transportation in Enfield and providing consistency with state, regional and local plans, this inventory complies with the objectives of the federal Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which authorizes funding for transportation programs, such as highways, transit, freight, safety and research.

Roads and Traffic

This subsection addresses the roadway classifications, existing traffic conditions, and recent traffic improvement projects in Enfield. The street system within the Town of Enfield is maintained and improved by the Connecticut Department of Transportation (state-owned roads) and the Town of Enfield Highway Maintenance Division.

Functional Classification

The Federal Highway Administration (FHWA) classifies roadways and highways according to the function or service it provides. In the State of Connecticut, the functional classification system is prepared and maintained by the Connecticut Department of Transportation. There are three major categories of roadways and highways: arterial, collector and local. Within the Town of Enfield, each of these classifications exists:[91]

Arterials: include interstates, other freeways and expressways, and are designed for higher speed and traffic volumes. These roads serve as connections between municipalities or are part of the interstate system.

- Expressway – Interstate-91
- Principal Arterials – U.S. 5
- Minor Arterials – Route 190, Route 191, Route 192, Route 220, Abbe Road, Brainard Road, Powder Hill Road, Raffia Road, Simon Road, South Road, South Maple Street, and Taylor Road

Collectors: designed for lower speeds and shorter distances. They are typically two-lane roads that collect and distribute traffic to and from the arterial system and connect them with residential neighborhoods.

- Collectors – Abbe Road, Bacon Road, Elm Street, Freshwater Boulevard, George Washington Road, Moody Road, North Street, North Main Street, Pearl Street, Phoenix Avenue, Post Office Road, Shaker Road, South Road, Steele Road, Town Farm Road, and Weymouth Road

[91] Connecticut Department of Transportation. 2009. <http://www.ct.gov/dot/cwp/view.asp?a=3532&q=259754&PM=1&dotPNavCtr=|&pp=12&n=1>

Local roads: all roadways not included in a higher-level classification. They provide basic access between residential and commercial properties as well as connections to higher classification roads.

Traffic Conditions

This section evaluates traffic counts conducted in the Town of Enfield over a fifteen-year period from 1992 to 2007. The analysis includes the town's five major state roads (U.S. 5, Routes 190, 191, 192 and 220), as well as each of the four I-91 interchanges. Reflecting Connecticut Department of Transportation practices, Table 39 reports traffic counts for the I-91 interchanges for every third year from 1991 to 2006.

Overall, traffic has increased on these major roads by 4.7% during the 15-year period. The busiest roadways are:

- Route 190, which handles 27,800 daily vehicles in the area of the Enfield commercial retail centers;
- Route 220, which experiences 32,400 vehicles daily near the Enfield Square shopping center; and
- U.S. 5, which handles between 12,000 and 16,100 daily vehicles all the way south from the Massachusetts state line, except for a portion near the East Windsor town line that has considerably less traffic.
- The major factors that each of these highly traversed roadways has in common are their proximity to commercial centers as well as I-91 interchanges. Other locations that have seen a significant increase in traffic since 1992 include:
- Route 220, especially east of I-91, which has seen more than 4,000 additional vehicles;
- Route 191, between Bailey Road and the East Windsor town line, where there are more than 1,000 additional daily vehicles; as well as
- U.S. 5 at the northern and southern borders of the town, where there are more than 1,000 new daily vehicles in each area.

Conversely, areas that have seen notable decline in traffic since 1992 are Route 190, east of Elm Street, which has dropped by 3,000 daily vehicles, at the Somers town line, where there are 2,500 less vehicles, as well as most areas along U.S. 5 in the village of Thompsonville, where traffic has dropped by up to 12%. The following table illustrates the changes in traffic for the Town of Enfield since 1992.

Table 39 Traffic Counts of Major Roadways for Enfield (1992-2007)

Route	Location	Year						
		1992	1995	1998	2001	2004	2007	Percent Change (%)
U.S. 5	Massachusetts State Line	14,500	13,800	15,200	15,800	16,400	15,700	8.3
	N.E. of I-91 Exit 49	N/A	N/A	15,100	16,000	15,000	16,100	6.6
	North of Alden Ave	16,100	14,800	16,700	15,400	14,600	14,100	-12.4
	North of Route 220	15,700	14,900	16,300	16,100	15,100	14,600	-7.0
	North of Frew Terrace	13,800	14,800	14,200	13,300	13,300	12,300	-10.9
	South of South Road	14,800	14,400	15,600	14,500	15,200	14,600	-1.4
	North of I-91 Exit 46	15,000	13,100	14,000	17,800	14,200	14,700	-2.0
	East Windsor Town Line	5,900	5,000	5,600	8,100	6,600	6,700	13.6
Route 190	East of Phoenix Ave	28,400	26,400	27,500	27,600	27,000	27,800	-2.1
	East of Elm Street	22,800	19,500	20,400	19,900	19,700	19,800	-13.2
	West of Route 191	18,000	16,400	17,700	15,000	16,600	16,800	-6.7
	At Somers Town Line	17,000	13,800	14,300	13,300	19,400	14,500	-14.7
Route 191	South of Route 190	7,300	4,000	6,400	6,500	7,300	7,300	0.0
	South of Bailey Road	5,000	7,300	5,200	5,500	5,800	5,900	18.0
	At East Windsor Town Line	4,400	5,000	4,600	4,900	5,200	5,400	22.7
Route 192	S.E. of Brainard Road	7,100	7,400	7,300	7,400	7,200	6,500	-8.5
	South of route 220	5,700	6,600	4,600	4,700	4,200	4,200	-26.3
	North of North Street	5,700	7,000	5,900	5,900	4,900	4,600	-19.3
	North of Route 190	3,300	3,000	3,500	3,300	2,900	2,900	-12.1
Route 220	East of U.S. 5	13,900	10,500	11,700	12,600	12,800	12,700	-8.6
	East of I-91 Exit 48	28,300	30,000	31,000	29,400	32,000	32,400	14.5
	East of Harvest Road	25,200	24,800	26,800	24,000	25,600	24,400	-3.2
	N.E. of George Washington Road	9,400	11,500	11,800	11,800	11,700	12,500	33.0
	East of Route 192	7,200	8,200	9,000	9,100	9,300	10,500	45.8
	North of Shaker Road	8,100	8,200	8,700	8,700	8,800	9,500	17.3
	At Massachusetts State Line	7,800	7,600	8,200	7,800	8,100	8,900	14.1

Source: Connecticut Department of Transportation. 2009 TMSADT Data Application.

The I-91 interchanges in the Town of Enfield have also seen an increase of just over four percent in daily traffic since 1991. However, the increase can be attributed to only one of the interchanges, 48 at Route 220. Traffic at this interchange has increased by 22% and can be largely attributed to regional shopping centers that have continued to develop to the east of this intersection. The other three interchanges, 46, 47 and 49, have all decreased in daily traffic between 0.7% and 4.8%. Table 40 shows traffic levels at each of the four Enfield I-91 interchanges.

Table 40 Traffic Counts of Interstate 91 Exits for Enfield (1991-2006)								
Route	Location	Year						
		1991	1994	1997	2000	2003	2006	Percent Change (%)
Interstate 91 Exits	Interchange 46	12,300	12,000	12,200	11,900	12,200	11,900	-3.3
	Interchange 47	28,900	28,100	29,700	30,400	3,100	28,700	-0.7
	Interchange 48	23,200	22,700	22,000	22,200	24,500	28,300	22.0
	Interchange 49	20,800	19,500	18,400	18,800	19,200	19,800	-4.8
Source: Connecticut Department of Transportation. 2009 TMSADT Data Application.								

Current Problem Areas

There are no major current traffic problem areas cited by the Town of Enfield Engineering Department in 2009. Minor areas of traffic concern cited by the department include Routes 190 and 220, east of I-91, surrounding Enfield Square and other major retail developments.[92] As seen in the daily traffic counts since 1992, these are the areas that have seen the most significant increase in traffic, especially along Route 220 and the I-91 interchange 48. Congestion along Route 190 is addressed in the Route 190 Corridor Transportation Plan, which was drafted by the Capitol Region Council of Governments in 2004.[93]

Transportation Improvement Projects

The Town Engineering Department has compiled a list of priority transportation projects to take place in Enfield over the next several years. The projects include a mix of mostly road reconstruction projects along with bridge, pedestrian and bicycle access improvements. There are currently no projects for new roads or sidewalks. The present economy has impacted projects in Enfield, as the Town called for a freeze on spending for capital improvement projects, limiting additional funding that would ordinarily be targeted for transportation. Table 41 is an inventory of priority transportation projects for the Town of Enfield.

In addition to the transportation projects that are being undertaken by the Town, the Capitol Region Council of Governments has submitted a series of projects in the Town of Enfield for federal Transportation Improvement Project (TIP) funds, which often require a combination of State and local dollars. Table 42 is a list of TIP funds targeted for projects in the Town of Enfield.

Proposed Thompsonville Intermodal Rail Station

As a part of the State's proposed New Haven-Hartford-Springfield Commuter Rail Service, a new station may be constructed in Thompsonville. The station would be located on Main Street, at the railroad crossings (Bigelow Commons). The station design is proposed to include high-level platforms, grade

[92] Cabibbo, John, P.E. Town of Enfield Department of Engineering. June 4, 2009. Personal Interview.

[93] Capitol Region Council of Governments. 2004. Route 190 Corridor Transportation Plan, Executive Summary. p.1

separated pedestrian crossings, bicycle storage and racks and approximately 117 new parking spaces. Its location within an urban area of Enfield will provide access to a wide variety of transportation options, including automobile, bicycle and pedestrian.[94]

Table 41 Town Transportation Projects for Enfield

Project	Description	Status
Road Reconstruction	Pearl Street	Bid Awarded
	Weymouth Road	2009 Construction
	Bess Road	2009 Construction
	Judy Drive	2009 Construction
	Roberts Road	2009 Construction
	Parky Drive	2009 Construction
	Nelson Drive	2009 Construction
	Long Hollow Road	2009 Construction
	Adams Road	Under Design
	Chief Street	Under Design
	Dale Road	Under Design
	Queen Street	Under Design
	Welch Drive	Under Design
	Alden Avenue	Under Design
	Hartford Avenue	Under Design
	Bigelow Avenue	Under Design
	White Street	Under Design
	Windsor Street	Under Design
	Union Street	Under Design
	Union Street Extension	Under Design
	Lafayette Street	Under Design
	Russell Street	Under Design
	Jim Street	Under Design
Intersection Improvements	Freshwater Blvd. & Cranbrook Blvd.	Under Design
Bridge Reconstruction	South Maple Street	Under Design
Road Reconstruction Inc. New Bikeway	Post Office Road & Town Farm Road	Under Design
Road & Sidewalk Improvements	Raffia Road	Under Design
Sidewalk Reconstruction	Heron Road	Bid Awarded
	Abbe Road	Bid Awarded
River Dam Access	Access Walkway for CT River Dam	Under Design

Source: Town of Enfield Engineering Department

[94] Connecticut Department of Transportation. 2005. New Haven-Hartford-Springfield Commuter Rail Implementation Study. Recommended Action, p.2

Table 42 2007-2010 Transportation Improvement Projects (TIP) for Enfield			
Project	**Description**	**Year**	**Cost**
Thompsonville Intermodal Center	Intermodal Transportation Station in Thompsonville	2007-2009	$2.93M
Post Office/Town Farm Roads	Reconstruction from Raffia Road to Abbe Road including designated Bikeway	2009	$11.44M
Pedestrian Access Over Rail	Engineering & Construction for Pedestrian access over Amtrak to CT River		$7.51M
South Maple Street Bridge	Engineering to Replace South Maple Street bridge and approaches	2009	$300K
U.S. 5 Bridge over I-91	Rehabilitation of Bridge 00445, U.S. 5 over I-91	2009	$14M
Route 190 Multi-Use Trail	Construction of multiuse Trail along Route 190, including sidewalks/trail on either end of Route 190 Bridge over CT River	2007 +	$3.25M
Source: Capitol Region Council of Governments TIP2007 Funding Matrix			

Route 190 Corridor Transportation Plan

In February 2004, the Capitol Region Council of Governments approved the Route 190 Corridor Transportation Plan. Route 190 is the main east-west roadway passing through north-central Connecticut. In the Town of Enfield, Route 190 is known as Hazard Avenue, and it extends east from the Town of Suffield to the Town of Somers. Route 190 Corridor Transportation Plan specifically addresses Route 190 in Enfield and Somers.

By 2024, it is anticipated that traffic on Route 190 will grow by approximately 20%. The plan addresses existing or anticipated safety and congestion issues, focusing upon solutions that preserve and enhance the character of the local communities. Within the Town of Enfield, the plan addresses four distinct areas: the Commercial Area, the Transition Area, Hazardville and Scitico.[95]

The Commercial Area along Route 190 is the section surrounding the Phoenix Avenue intersection, east of I-91 and adjacent to access points for Enfield Common, Enfield Square and Brookside Plaza shopping areas. Recommended improvements include intersection modifications at Route 190 and Phoenix Avenue, traffic signal phasing modifications and construction of two new northbound left-turn lanes. Traffic signals between I-91 and the Enfield Professional Park should be synchronized for improvement of traffic flow. A direct connection is recommended from Enfield Common and the

Figure 36 Rt. 190 Plan for the mall area – Incorporates multi-use trails and roadway improvements on or off of Rt. 190/Hazard Avenue

[95] Capitol Region Council of Governments. 2004. Route 190 Corridor Transportation Plan, Executive Summary. p.2

Enfield Square mall. The plan also suggests bicycle and pedestrian improvements to improve access along Route 190, a pedestrian bridge over I-91 and a multi-use trail along Freshwater Brook and connecting to the shopping centers. The total cost for these improvements is estimated at $5.5 million.[96]

The Transition Area is defined as between Palomba Drive and the village of Hazardville. Significant commercial growth is anticipated for this area. It is recommended that Route 190 is widened between Palomba Drive and the Enfield Professional Park to allow for left-turn lanes. Sidewalks are suggested for the north side of Route 190 from Palomba to Elm Street, as well as five-foot shoulders to accommodate bicycles. The plan also recommends the installation of a variable message sign for westbound traffic, describing conditions on I-91. The total cost for these improvements is projected to be $2.2 million.[97]

The plan focuses improvements in Hazardville around the Maple Street intersection. The goal is to improve congested conditions through intersection and streetscape improvements, while having minimal impact upon the historic character of the village. It is recommended that lane assignments be changed to create exclusive left-turn lanes in each direction. Right-turn lanes are also suggested in the eastbound direction, however the Town must decide if the improved traffic flow warrants the loss in potential new greenspace. The stop-bar on the southbound approach of Maple St. should be moved back to accommodate vehicles with large turn radii. The cost for these recommendations is $650,000.[98]

The Scitico improvement area is focused around the intersections of Route 190 with Scitico Road and Taylor Road, as well as with Broad Brook Road. The recommendations include the addition of an eastbound left-turn lane on Route 190 and a southbound left-turn lane on Taylor Road. It also recommends the partial or full closure of Scitico Road to traffic from Route 190 to relieve traffic issues in this area. At the Broadbrook Road intersection, the plan recommends a west bound left-turn lane on Route 190 as well as streetscape improvements for the entire area to improve aesthetics and provide pedestrian safety. The entire cost of improvements in this section is $1.2 million.[99]

Workforce Mobility

An analysis of the town's workforce mobility gives an indication of the sufficiency of the transportation infrastructure. Enfield's working population in 2000 was 21,479. Eighty-nine percent worked within the Hartford MSA. Of those residents who worked within the Hartford MSA, 88% did so outside of the central city. Those who worked in another MSA made up 10% of Enfield's working population, and 57% of these worked in that MSA's central city. A small number of Enfield residents (0.46%) did not work in an MSA. [100]

Eight percent of Enfield's total working population had jobs outside of Connecticut.[101] At a regional level, 3 out of 4 workers worked outside their town of residence.

[96] Capitol Region Council of Governments. 2004. Route 190 Corridor Transportation Plan, Executive Summary. p.3

[97] Ibid p.4

[98] Ibid p.5

[99] Ibid p.6-7

[100] US Census Bureau. P28. Place of work for workers 16 years and over- MSA/PMSA level. Census 2000 Summary File 3 Sample Data.

[101] US Census Bureau. P26. Place of work for workers 16 years and over- State and County level. Census 2000 Summary File 3 Sample Data.

The most commonly used means of transportation to work in 2000 was a car, truck or van (95%). Less than one percent of workers used public transportation. Sixty percent of workers spent anywhere between 10 to 25 minutes traveling to their place of employment, while only one percent of residents worked from home.[102]

Parking

The Town of Enfield owns and operates three municipal parking lots that are publicly available to residents and visitors. All three lots are located within the Village of Thompsonville. A lot at Pearl Street and Asnuntuck Street contains 54 spaces. Another lot at Pearl Street and South Street has 31 spaces. And the final lot, located at Pleasant Street and Whitworth Street has 33 spaces. The Town does not own any publicly available lots in the Village of Hazardville.[103]

According to the Thompsonville Neighborhood Revitalization Strategy, drafted in 2001, the Village of Thompsonville does not have an overall parking deficiency. However, there are specific uses and policies that have caused some strain. The plan cites the area near the Lamagna Youth Center and the former Strand Theatre on North Main Street as requiring a greater amount of parking. However, in other sections of the Village, the plan recommends changes to the municipal parking policies and physical demarcation as a way for parking to better serve Thompsonville residents and visitors. Parking strategies need to focus upon creating turnover on primary streets and highly convenient public lots. The plan advocates for imposing a two-hour time limit on parking to ensure turnover as well as painted striping to ensure that drivers use parking spaces efficiently. Conversely, longer term parking would be better suited on side streets and the more remote portions of the existing lots. In regards to on-street parking, the plan suggests diagonal parking along Pearl Street, north of High Street, as well as on North Main Street in front of the Strand Theatre. To provide additional parking, the plan recommends that bus stops, loading areas and fire hydrant areas to be consolidated to reduce the amount of streetscape that is unavailable for parking. Finally, the strategy includes alterations to the zoning regulations, reducing the amount of parking required for each type of development, especially retail.

Bus Service

The Town of Enfield does not have its own bus system; however, there are commuter bus services available to residents, providing connections to the surrounding metro areas. Two regional agencies have operations in the Town: Springfield's Pioneer Valley Transit Authority (PVTA) and Connecticut Transit's (CTTransit) Hartford Division. The PVTA operates its Route Green 5 bus from Springfield, MA, serving the Massachusetts Mutual Campus in Enfield. The route runs Monday through Friday, with eight round trips between 6:50 AM and 6:15 PM. Additional service is offered on Saturdays, with six trips running from 9:10 AM to 5:40 PM. Connections are offered at the Massachusetts Mutual campus CTTransit's Route 5 on weekdays. The regular fare for the bus is $1.25, with options for daily ($3.00), weekly ($12.50) and monthly ($45.00) rider passes.[104]

[102] US Census Bureau. P31. Travel time to work for workers 16 years and over. Census 2000 Summary File 3 Sample Data.

[103] David Tuttle, Superintendent, Town of Enfield Building & Grounds Department. July 21, 2009. Personal Interview.

[104] Pioneer Valley Transit Authority. 2009. <http://www.pvta.com/uploads/schedules/G-05.pdf>

CTTransit operates its Route 5 express service from Downtown Hartford to Enfield. During weekdays, the bus runs from 6:50 AM to 7:14 PM and makes stops at the Massachusetts Mutual Campus, the Enfield park & ride at Freshwater Blvd. and in Thompsonville at Pearl & Franklin Street. Connections are available to the PVTA Green 5 bus line to Springfield on weekdays at the Massachusetts Mutual Campus. Additional weekend service is offered with one round trip to the Freshwater Blvd. Park & Ride lot. Regular fare for the bus, which traverses three zones, is $2.95. There are also 10-day ($26.50) and monthly ($100.00) passes available.[105]

The Peter Pan Bus Company operates a daily round trip from the Enfield Park & Ride at Freshwater Blvd. to the Foxwoods Casino Resort. One additional round trip is also offered on Friday and Saturday. The fare for a round trip is $27.00. There is no other intercity bus service directly serving the Town of Enfield. Bradley International Airport in Windsor Locks offers additional service to Peter Pan, as well as Greyhound, providing connections to their services throughout North America.[106]

Dial-A-Ride

Dial-A-Ride is a local transportation service within the Town of Enfield aimed to provide affordable means of travel for elderly and disabled residents. The service primarily offers bus service to anywhere within the Town of Enfield, however, car service provided by volunteers is also available for medical appointments outside of town. To utilize Dial-A-Ride, one must be a resident of the Town of Enfield at least 60 years of age or have a disability. The service requires an annual membership fee of $70 and operates Monday through Friday, 8:00 AM – 4:00 PM. Dial-A-Ride identifies priorities for service, including medical appointments, grocery shopping, appointments, senior programs and visits to nursing homes, friends, libraries and restaurants.[107]

Rail Service

The Hartford Capitol Region is presently served by national Amtrak passenger rail service. The service connects the region to other major northeastern metropolitan areas and offers Enfield residents an additional transportation option. The State of Connecticut also has regional commuter rail, operated by Metro North, a subsidiary of the New York Metropolitan Transportation Authority, however, those lines do not enter the Capitol Region. The commuter rail ends in Waterbury, to the southwest of the Capitol Region.[108]

Federally-owned and operated, Amtrak is the dominant form of passenger rail travel in the United States, providing service to 46 states and over 500 destinations. The Windsor Locks Train Station is the primary Amtrak station for the Town of Enfield, providing service to Amtrak's Northeast Regional and Vermonter lines. The Northeast Regional line runs from Newport News, VA to Springfield, MA, servicing Washington D.C., Philadelphia, New York City, New Haven and Hartford, along the way. The route splits in New Haven, where passengers can also head towards Boston. The Vermonter line extends from

[105] Connecticut Transit. 2009. <http://www.cttransit.com/Fares/Express.asp>

[106] Connecticut Department of Transportation. 2004. New Haven Hartford Springfield Commuter Rail Implementation Study: Existing conditions Report. p. 4-17

[107] Town of Enfield. 2009. Enfield Dial-A-Ride. <http://enfield-ct.gov/content/91/115/5093/4301.aspx>

[108] Metro North Railroad. 2009. < http://www.mta.info/mnr/html/mnrmap.htm>

Washington, D.C., through New York City, Springfield and Burlington, VT, to St. Albans in northern Vermont. This line is often utilized by travelers from major metropolitan areas on the eastern seaboard to access skiing facilities in Vermont. During 2008, approximately 16,000 travelers utilized the Windsor Locks station.[109]

Proposed Commuter Rail Service

The State of Connecticut has proposed a New Haven-Hartford-Springfield Commuter Rail Service to be established to serve the central spine of the State. The entire line would serve eight existing stations, three new stations, including one in Enfield, and utilize the existing Amtrak right-of-way. The service is proposed to operate 16 trains a day and projected to serve 630,000 passengers, annually. The line would connect to existing Metro North service that ends in New Haven, giving Enfield and the Hartford Capitol Region a direct commuter rail connection to New York City. As a part of this project, an intermodal rail station would be constructed on the existing rail line in Thompsonville at a cost of approximately $8,000,000. This station could generate an estimated 210 daily trips. [110]

[109] Amtrak. November, 2008. Amtrak fact sheet. Fiscal year 2008: State of Connecticut.

[110] Connecticut Department of Transportation. 2004. New Haven Hartford Springfield Commuter Rail Implementation Study: Existing conditions Report. p. 4-17

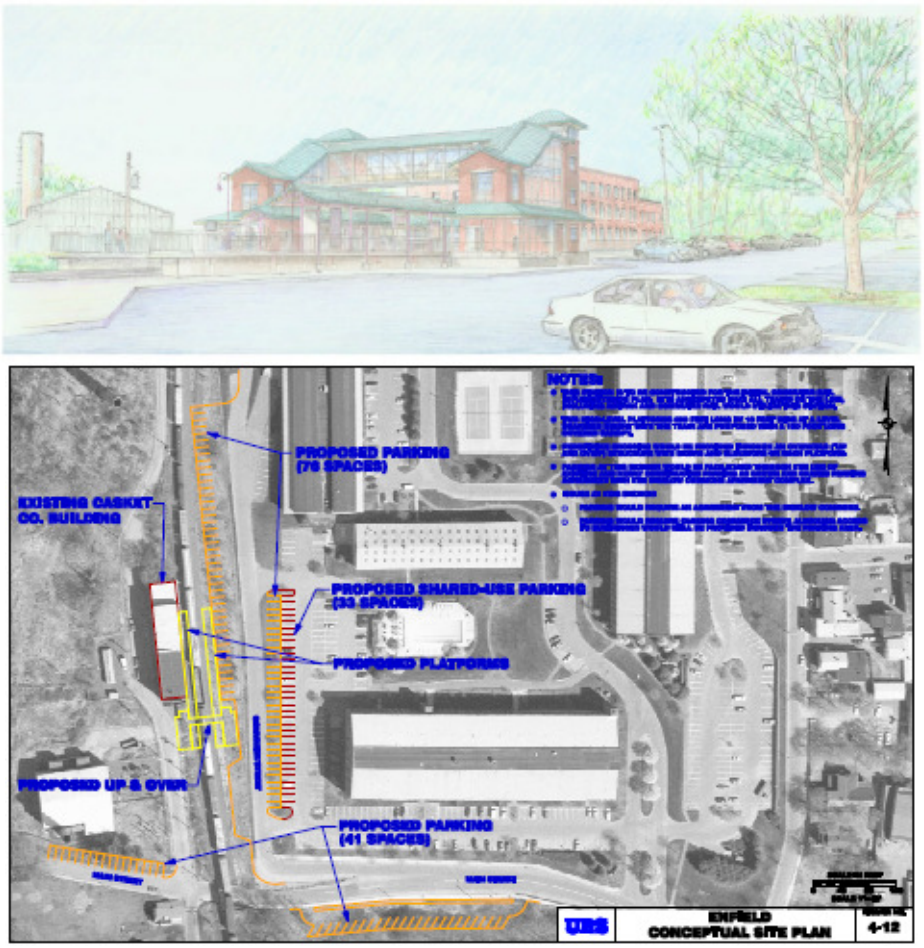

Figure 37 Conceptual Rendering and Site Plan for the Enfield Rail Station
The images above show the concept proposed by ConnDOT for renovating the Casket Factory building to accommodate the new passenger rail station and commuter parking areas.

Air Service

The Town of Enfield is serviced well by several airports, to varying degrees. The primary commercial airport is Bradley International in the neighboring Town of Windsor Locks. Additional facilities serving Enfield and Connecticut residents are the Tweed-New Haven Airport, located in New Haven, Logan International in Boston, as well as the major New York City metropolitan airports of Kennedy, LaGuardia and Newark.[111] The town is also home to a small privately operated facility, Laurie Field Airport, as well as two heliports: Dairy Mart Farms Inc. Heliport and Della Heliport.[112]

[111] Connecticut Department of Transportation. 2007. Moving Forward: Connecticut's Transportation Strategy. p.79-88

[112] Airport-Data. 2009. Laurie Field Airport. <www.airport-data.com/airport/CT19/>

Bradley International Airport is the largest and busiest air facility in the State of Connecticut and is the only state-owned airport with scheduled commercial and cargo air service. Located approximately ten miles southwest of Enfield and accessible via Interstate-91, the primary service area for the airport includes the State of Connecticut and western Massachusetts. The secondary service areas include eastern New York State, as well as portions of Vermont, New Hampshire and Maine. The tertiary service area for the airport includes the entire Northeastern United States, stretching from the southern borders of Pennsylvania and New Jersey to the northern tip of Maine. The airport serves 15 commercial airlines with over 270 daily flights and eight cargo carriers.[113] In 2007, the facility hosted 6.5 million passengers, following a two year decline from a record year of nearly 7.4 million passengers in 2005.[114] Cargo volume increased significantly at the airport between 2003 and 2006, increasing from 142,000 tons to 162,000 tons, served annually.[115] Since 2000, the Bradley International has undertaken several major capital improvement projects, including a new terminal, terminal-wide improvements, a new parking garage, as well as new customs and federal inspections stations.

Planned improvements for the future include the replacement of the oldest facility at the airport, Murphy Terminal, additional parking expansions, a high-speed taxiway and consolidated cargo and rental car facilities. All new projects will be funded from state and federal resources. Additionally, several transportation improvement projects have been proposed by *The Bradley Area Transportation (BAT) Study*[116] and the *Capitol Region Transportation* Study to strengthen the regions connectivity to the facility, increase safety and ultimately improve the airport's ability to spur economic development.[117]

Tweed-New Haven Airport is located sixty miles south of Enfield in the City of New Haven. The airport is owned by the City of New Haven and is served by US Air, which operates 12 daily flights to its regional hub in Philadelphia. Two additional airports exist within the State: Groton-New London Airport in Groton and Sikorsky Airport in the Town of Stratford. However, neither of these airports continues to provide scheduled commercial air service. They each presently operate as general aviation facilities.[118]

Residents of Enfield and Connecticut also often utilize the larger air facilities in the Boston and New York City for long-distance travel.[119] Logan international is located 100 miles northwest of Enfield, offering domestic and international flights. Newark Liberty International, LaGuardia and JFK International Airports in the New York City metropolitan area are located approximately 130 miles to the south. LaGuardia primarily serves flights to the United States and Canadian cities, while Newark Liberty International and JFK International also offer domestic and international service.

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[113] Capitol Region Council of Governments. 2007. Capitol Region Transportation Plan – p.39

[114] Connecticut Department of Transportation. 2007. Moving Forward: Connecticut's Transportation Strategy. p.79-88

[115] Capitol Region Council of Governments. 2007. Capitol Region Transportation Plan – p.39

[116] Connecticut Department of Transportation. 2007. Moving Forward: Connecticut's Transportation Strategy. p.79-88

[117] Capitol Region Council of Governments. 2007. Bradley Area Transportation Study – p.39

[118] Connecticut Department of Transportation. 2007. Moving Forward: Connecticut's Transportation Strategy. p.79-88

[119] Connecticut Department of Transportation. 2007. Moving Forward: Connecticut's Transportation Strategy. p.79-88

Three small, private air facilities are also located within the Town of Enfield. Laurie Field is located on Abbe Road in Hazardville. The facility is not open to the public. The two heliports, Dairy Mart Farms Inc. Heliport and Della Heliport are located on Vision drive and Route 192 in the Town of Enfield, respectively. Each of these facilities is also not open for public use.[120]

Bicycle & Pedestrian Travel

Bicycle and pedestrian travel is becoming increasingly important in transportation planning for the Capitol Region. In 2007, the Capitol Region Transportation Plan included recommendations that promote the integration of biking and walking into transportation infrastructure, encouraging roadway designers to develop projects that are most accommodating of pedestrians and cyclists. Wherever possible, new road construction, as well as reconstruction must accommodate all forms of transportation, including pedestrians and bicycles, not just motorists. The plan calls attention to developing land uses that are friendly to bicycles and pedestrians, encouraging developers to considering all forms off access to their site. It is also recommended that all public transit be able to accommodate bicycle storage and/or racks to allow riders to transition easily between modes. The plan also suggests a series of initiatives to promote pedestrian and bicycle transportation through education, enforcement, safety promotion and the continued official support from government thought the bicycle and pedestrian committee.[121]

Following the Transportation Plan, the Capitol Region Council of Governments drafted the updated Regional Pedestrian and Bicycle Plan. The document's goal is to "create a plan that will lead to significant shifts in the number of people who choose to walk and bicycle for regular transportation. According to the 2006 American Community Survey, of workers in the Hartford Region, less than one percent bike to work and just over three percent walk. Compared to 2000 and 1990 data, bicycling has increased, marginally, and walking has also increased, following a decline in 2000. The level to which these numbers increase will be how the success of this plan is measured. Recommendations in the plan include the following:

- regional adoption of a complete streets policy, ensuring that all modes of transportation are reasonably accommodated for in-roadway projects
- creation of a survey document to enable municipalities to identify infrastructure needs
- development of regional design guidelines for pedestrian & bicycle facilities
- complete the multi-use path systems in the region
- extension of existing trail systems
- development of effective bicycle commute routes
- continue local trail development
- creation of an on-road bicycle network
- develop additional bicycle storage and locking facilities
- public education about bicycle and pedestrian travel
- enforcement of local traffic laws that protect cyclists and pedestrians

[120] Airport-Data. 2009. Laurie Field Airport. <www.airport-data.com/airport/CT19/>

[121] Capitol Region Council of Governments. 2007. Capitol Region Transportation Plan – p.39

Designated by the Regional Pedestrian and Bicycle Plan, the Town of Enfield presently has an extensive on-road bicycle network. Following is an inventory of designated bicycle ways in Enfield, including a proposed trail from Enfield Square to the village of Thompsonville as well as across the Connecticut River:[122]

Table 43 On Road Bicycle Network for Enfield (2008)

State Rte. Or U.S. Hwy #	Local Road Name	Section
S.R. 220	Taylor Rd., Shaker Rd., Elm St.	State Line to U.S. 5
S.R. 192	North Maple St.	State Line to Bacon Rd.
U.S. 5	Enfield St., King St.	State Line to S.R. 510
S.R. 191	Broad Brook Rd.	S.R. 190 to East Windsor Town Line
S.R. 190	Hazard Ave.	Palomba Dr. to Somers Town Line
S.R. 510	Depot Hill Rd.	U.S. 5 to Old Depot Hill Rd.
S.R. 514	Franklin St.	S.R. 190 Bike Path to U.S. 5
	Taylor Rd., Shaker Rd., Elm St.	S.R. 220 to S.R. 190
	Bacon Rd.	S.R. 192 to S.R. 220
	Old Depot Hill Rd.	Depot Hill Rd. to River Rd.
	River Rd.	Old Depot Hill Rd. to East Windsor Town Line
	Raffia Rd.	South Rd. to Post Office Rd.
	Simon Rd.	Raffia Rd. to East Windsor Town Line
	North Main St.	U.S. 5 to Main St.
	Main St.	North Main St. to South River St.
	South River St.	Main St. to Asnuntuck St.
	Asnuntuck St.	South River St. to Prospect St.
	Prospect St.	Asnuntuck St. to Maple Ave.
	Maple Ave.	Prospect St. to Spring St.
	Spring St.	Maple Ave to S.R. 190 bike path
	Cranbrook Blvd.	Freshwater Blvd. to Palomba Dr.
	Palomba Dr.	Cranbrook Blvd. to S.R. 190
	South Rd.	U.S. 5 to SR. 190
	Post Office Rd.	U.S. 5 to Raffia Rd.
	Town Farm Rd.	Abbe Rd. to S.R. 191
	* Town Farm Rd.	Abbe Rd. to Raffia Rd.
	* Route 190 Trail	Freshwater Blvd. to U.S. 5
	* Route 190 Trail	Across Connecticut River

* Note: Proposed Bikeway

Source: Capitol Region Council of Governments Regional Pedestrian & Bicycle Plan

Findings

- The Town of Enfield transportation network must be developed to amply serve local residents, as well as to provide new opportunity for travel, recreation and economic opportunity. Following are findings on the present transportation conditions:

[122] Capitol Region Council of Governments. 2008. Regional Pedestrian and Bicycle Plan. p.26-39.

- A proposed New Haven-Hartford-Springfield Commuter Rail Line includes an intermodal station in Enfield which will provide new opportunity for Enfield tourism, economic development and inter-municipal transportation
- The Town of Enfield, as well as the Capitol Region have put a significant emphasis upon developing bicycle and pedestrian accommodations throughout the town, including a focus on a "complete streets" policy for all new transportation projects
- New multi-use trails are to be constructed along Town Farm & Post Office Roads as well as along I-190 from Freshwater Boulevard to U.S. 5 and across the Connecticut River.
- Traffic conditions in the town are generally good with no major problem areas. The locations with the highest levels of congestion include Routes 190 and 220, east of I-91, near major retail centers
- The town is well serviced by air transportation due to its close proximity to Bradley International Airport, the largest airport in Connecticut, located in nearby Windsor Locks
- Enfield residents are presently served by rail transportation in Windsor Locks, which has the nearest Amtrak station. The future New Haven-Hartford-Springfield Commuter Rail project will bring a new station to the village of Thompsonville
- Public transportation in Enfield consists of one bus route, each, to the cities of Hartford and Springfield
- Transportation services for the elderly and disabled are provided by Dial-A-Ride
- The Route 190 Corridor Transportation Plan provides a blueprint for road improvements on Route 190 to relieve current congestion issues and accommodate traffic growth while preserving the landscape and character of the neighborhoods along the roadway